

REMARKS

The Applicant has carefully considered this application in connection with the Examiner's Action and respectfully request reconsideration of this application in view of the foregoing amendment and the following remarks.

The Applicant originally submitted Claims 1-20 in the application. The Applicant has amended Claims 1, 2, 7, 11 and 17. The Applicant has not added or canceled any claims. Accordingly, Claims 1-20 are currently pending in the application.

I. Rejection of Claims 1-3, 5-13 and 15-20 under 35 U.S.C. §102

The Examiner has rejected Claims 1-3, 5-13 and 15-20 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,767,855 to Ueno, *et al.* (Ueno). The Applicant respectfully disagrees that the present invention, as claimed in Claims 1-3, 5-13 and 15-20, is anticipated by Ueno inasmuch as anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. The Applicant appreciates the diligence shown by the Examiner in parsing Claim 1 in view of Ueno, but believes a critical element of the claimed invention has not been correctly analyzed in the Examiner's comparison. At the bottom of page 2 and top of page 3 of the Office Action, the Examiner writes "multiple pulses distributed in a predetermined manner among said group of time slots by pulse group keying to encode said element of data (several words of a frame overall comprise multiple pulses (i.e. one pulse per word) and are encoded using pulse position modulation (PPM), wherein the frame is denoted by a frame synchronization pulse Pf (see figure 1D and column 1 lines 60-64))." The "one pulse per word" in Ueno and the frame synchronization pulse Pf each constitute a single element of data represented

by a single pulse. Because each element of data in Ueno is represented by a single pulse within a single frame of time slots (which frame can be one time slot, in the case of a synchronization pulse), Ueno does not describe a single element of data being encoded by multiple pulses within a group of time slots. Although the Applicant believes the terms "an element of data" and "said element" clearly described a "single" element of data, Claims 1 and 11 have been amended, together with the appropriate dependent claims, to provide greater clarity. This amendment is done without intending to change the meaning of the claims as originally filed.

Ueno describes a pulse position modulation communication system that eliminates the need for generating independent synchronizing pulses at the point of transmission. (Abstract). Ueno addresses synchronization of pulse position modulation (PPM) where a single element of data is encoded by one pulse in one of a number of time slots that, together, make up a "word." Ueno, uses one word and a single pulse to encode an element of data and does not describe using multiple pulses for encoding a single element of data in either multiple time slots or an otherwise defined group of time slots. Ueno does not disclose the use of multiple pulses for encoding a single word or a single element of data. Stated slightly differently, Ueno encodes data using multiple pulses, but uses no more than one data pulse per word or element of data. Ueno does not encode data using multiple pulses in a single word or in a single time period divided into a group of slots that are equivalent of an element of data. Thus, Ueno does not describe the present invention as set forth in independent Claims 1 or 11.

Therefore, because Ueno does not disclose each and every element of the invention claimed in independent Claims 1 and 11, Ueno, as such, is not an anticipating reference. Because Claims 2-3, 5-10, 12-13 and 15-20 are each respectively dependent upon either Claim 1 or Claim

11, Ueno also cannot be an anticipating reference for Claims 2-3, 5-10, 12-13 and 15-20. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §102 rejection with respect to these Claims.

II. Rejection of Claims 4 and 14 under 35 U.S.C. §103

The Examiner has rejected Claims 4 and 14 under 35 U.S.C. §103(a) as being unpatentable over Ueno in view of U.S. Patent No. 6,236,855 to Austin. As the Examiner is no doubt aware, determination of obviousness requires consideration of the invention considered as a whole; the inquiry is not whether each element exists in the prior art, but whether the prior art made obvious the invention as a whole. Furthermore, there must be some suggestion or teaching in the art that would motivate one of ordinary skill in the art to arrive at the claimed invention; a reference that teaches away from a claimed invention strongly indicates nonobviousness.

Claims 4 and 14 are each respectively dependent on Claims 1 and 11 and, thus, include all the parent claim limitations. As set forth above, Ueno does not anticipate dependent Claims 1 and 11, because Ueno does not describe propagating a signal wherein "a single element of data" is transmitted using multiple pulses within a time period divided into a single group of time slots. Ueno also does not teach or suggest that multiple pulses with a single group of time slots, or word, can be used to encode "a single element of data."

Austin does not overcome the shortcoming of Ueno. Austin describes a method of transmitting data that enhances voice quality in a wireless transmission system. Austin uses idle transmission resources to send additional signal enhancing data by using adjacent idle time slots (which, in Ueno, are words, and, in the present invention, a group of time slots) on the same

frequency as the time slots carrying the compressed voice signal. Although, Austin does use words or a group of time slots that are not adjacent, Austin does not describe distributing multiple pulses within a group of time slots or word to encode "a single element of data."

Ueno, individually or in combination with Austin, thus fails to teach or suggest the invention recited in independent Claims 1 and 11, and their dependent claims 4 and 14, when considered as a whole. Claims 4 and 14 are therefore not obvious in view of Ueno and Austin.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claims 4 and 14 under 35 U.S.C. §103(a). The Applicant therefore respectfully requests the Examiner to withdraw the rejection.

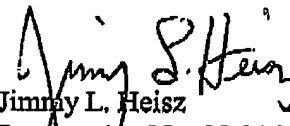
III. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 1-20.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

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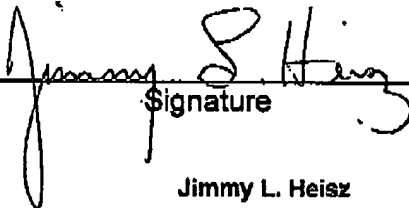
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